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ABSTRACT

The paper examines factors involved in applying microcomputer technologies to special education administration. The emergence of the "integrated electronic office" in which student records are stored so as to be available for immediate access is described, as is the complete electronic student record containing all programmatic information on each student throughout their public education. Benefits of such a development are considered as well as such potential problem areas as confidentiality, unauthorized use, and the potential obsolescence of many of the microcomputers in use today. Emphasized in the paper is the need to begin designing integrated educational administrative software that incorporates specific special education information along with other information related to such aspects as attendance, guidance and counseling, federal programs and school psychology. (CL)

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THE INTERGRATED ELECTRONIC OFFICE

AND THE

ELECTRONIC "WHOLE" CHILD:

SPECIAL AND REGULAR EDUCATION

IN THE YEARS 1987 THROUGH 1997

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The development and improvement of special education services in local education agencies (LEA's) during the mid-1980's necessitate that school administrators, directors of special education, and staff routinely monitor individual student's individual educational programs as well as district wide requirements, such as age span within classrooms, pupil-teacher ratio, and amount of time spent in special education programs verses time spent in regular education settings. In short, school systems throughout the United States as well as its territories that are mandated to report data concerning the services (education, vocational training, job placement, inter-agency reporting requirements, etc.) provided to handicapped individuals under current federal legislation (PL 94-142, Section 504 of the 1973 Rehabilitation Act, etc.) as well as individual state statutes are being faced with an information overload that threatens to sink many LEAs in a Sargasso Sea of paperwork.

One method of coping with this information overload along with federal/state mandates to obtain data to provide some degree of accountability for the funds expended by LEAs is to utilize microcomputer technologies.

Since 1978 microcomputers have slowly gained increasing acceptance within the public schools. Initially it was typically to find that curriculum needs were the first things to be addressed. During March of 1983 the field of special education through the efforts of the Council for Exceptional Children (CEC) acknowledged the ever increasing role of microcomputers by holding a national conference on **"The Use of the Microcomputer in Special Education."** Over 2500 participants came from across the United States, Canada, and overseas to seek training and share information.

The Hartford CEC conference mirrored regular education's concerns over curriculum materials. While modified input/output devices (talking terminals, voice-activated software, computer generated test results, eye/head/hand switches to activate computer relays, etc.) were displayed and discussed during the conference's workshops, software designed for instruction dominated the display areas. The needs of the special education administrators, superintendents, and boards of education for financial and educational databases (from which to obtain current, daily student age spans, pupil-teacher ratio information, and time spent in special education programs, etc.), to document programmatic needs, and effectiveness of current operations to public citizens, advocacy organizations, and due process hearing officers were only begining to be slowly realized by software manufacturers.

It is highly probable that throughout the United States over the next ten years directors of special education will develop what private business and industry call an **"integrated electronic office."** Already two major networks for information exchange exist, "Special Net" and "Handicapped Educational Exchange" (HEX), along with Dialog Information Services, Inc. which has the ERIC Clearinghouse on Handicapped and Gifted Children as one of its over 100 databases.

The three most crucial elements in the development of microcompter applications within the field of special education administration are appropriate software, hardware, and prior planning and coordination with other divisions of the LEA. Of these three, **the most crucial component of a director of special education's "electronic office" is** not the computer hardware, i.e., CRT screen, line printer, disk drives, etc. It is **the advanced planning and coordination with other divisions of the LEA "prior" to purchasing any administrative software.**

The concept of data base management is slowly filtering down from private business and industry to public educational systems. A database can be through of as an organized collection of important information, which are used regularly and may give you enormous headaches if not properly maintained and updated. A typical school system must count and track many student records for state and federal monitoring throughout any given school year.

This counting and tracking is a form of database management. Information on student attendance, school lunch counts, inventories of supplies by school/district, achievement test scores, and child count figures are only part of the information stored in our public school systems. Immediate access to information on student attendance, achievement scores, and other important data would allow both educational administrators and staff to plan, program, and counsel with parents and students on educational needs to a degree not possible today. In 1985, it is typically to find that most student records are currently not computerized for immediate access. Rather, they are filed in different areas of the school system (school buildings, central office, the state department of education, the federal Office of Education, etc.) depending upon which programs are serving the child's needs. The concept of the **"electronic" whole child** or **complete electronic student record containing all programmatic information on each student** throughout their public education is slowly coming into being. Like all births there can be both benefits and unforeseen complications.

The benefits of centralizing all information on students and their associated program areas for immediate access/analysis need to be weighed against the possibility of unauthorized access and use of student "electronic" records.

For example, a list of all parents of educable mentally impaired elementary school age children used by a director of special education to mail out notices of an upcoming parent training inservice becomes a different list if obtained by another agency for another purpose. **The issue of access to student records, by whom, and for what purpose(s) needs to be dealt with prior to developing this type of database.** Again, software not hardware will probably dictate the type and comprehensive nature of the safeguards for student records.

In this writer's opinion the benefits of centralizing students' programmatic records are well worth the risk of unauthorized use. Under such a system, individualized student information relating to special education's unique reporting needs (child count, pupil-teacher ratio, etc.) would be stored on a portion of an electronic cumulative folder. Other divisions of the LEA as well as other federal programs (ECIA, Chapter II, Chapter I, etc.) would store information on services provided to the student, i.e., parent's address, family size, income, achievement records, etc. This information could be available to different departments on some type of need to know basis. In other words, portions of the data could be electronically "locked" so that only authorized personnel or departments could review and/or analyze the information.

This need to know basis could also be utilized in interagency cooperative agreements by allowing access to portions of individual student records by other agencies for their analysis and documentation for programmatic and fiscal accountability.

Electronic records need to be kept in electronic filing cabinets. Currently most microcomputers use minifloppy disks, and/or hard disk drives for information storage. The vast amount of information that could be kept on an individual student given the multiple federal programs running in our schools, as well an each system's unique information needs may rapidly exceed today's microcomputer's storage capacity. A problem that will surface during the latter part of the 1980's and early to mid-1990's is that the microcomputers purchased during the early 1980's by LEA's will become obsolete. The obsolesence will probably be in the form of improvements in the speed and types of data input into the microcomputer as well as improvements and increases in the memory storage capacity of stand-alone microcomputers. One means of preventing the RAPID obsolesence of special education administrative software & hardware would be to utilize existing mainframe computer hardware systems already in place in the majority of the LEA's throughout the United States. This would result in a melding of "old" and "new" technologies.

In this type of situation, data could be stored on existing mainframe computers (the machines that currently print up payroll checks and schedule classes for high school students) and accessed remotely using existing telephone lines and a microcomputer. This would allow for the centralization of all information, backup protection of that information in case of a power failure, and security in your record keeping. The microcomputer would both access and analyze programmatic information depending upon the needs of individual departments.

As previously stated, appropriate software is crucial to computerized applications within the fields of special and regular educational administration. A computerized database can be built containing information on individual s. ents by programs, however, the information by itself is useless. It needs to be in a format that is useful and readable to people who are not computer programmers. Currently there exists an ever increasing amount of software designed to access only specific special education information. Access to other important information not directly related to special education's reporting needs but required by other departments of the LEA (attendance, school psychology, guidance and counseling, school financial officers, federal programs, etc.) could not be accessed by this software.

There needs to be an immediate effort by nationally based organizations of principals, directors of special education, superintendents, school finance officers, school psychologists, attendance departments, federal programs, etc. to begin designing intergrated educational administrative software. Otherwise, individual software programs will slowly develop that will become individual "electronic filing cabinets." They will be useless to other divisions of the organizations because they can neither be read nor the data analyzed in any meaningful manner for their own program's accountability criteria. In effect the other divisions will not have the necessary "electronic key" to unlock any other "electronic filing cabinet" besides their own. However, for those school systems that do not consider the centralization of their student records as an immediate goal, educational administrators would benefit from reviewing several existing special education administrative software packages with regards to their current needs for collecting and reporting data to state and federal departments/agencies under Public Law 94-142: The Education for All Handicapped Children Act of 1975. For a partial listing of existing special education software see: "Electronic Learning," February 1984, pp. 39-42. Another excellent source of information can be found in Enell, N. & Barrick, S. (August 1983). An Examination of the Relative Efficiency and Usefulness of Computer--Assisted Individual Education Programs (Grant Number 34-3651-67447-01-82). Office of Special Education, California State Department of Education.